

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended): A method for reading a non-volatile memory with multi-level output currents comprising:

5 providing a memory cell having a source, a drain, a channel formed between the source and the drain, a first isolation layer positioned on the channel, a non-conducting dielectric layer comprising silicon
10 nitride positioned on the first isolation layer, a second isolation layer positioned on the non-conducting dielectric layer and a conductor positioned on the second isolation layer;

15 applying a first reading voltage on [[a]] the conductor of the memory cell;

applying a second reading voltage on [[a]] the drain of the memory cell; and

grounding [[a]] the source of the memory cell, thereby obtaining an output current;

20 wherein the memory cell comprises a first programming state, a second programming state, a third programming state, or a fourth programming state, and the output current comprises a maximum output current corresponding to the memory cell in the first
25 programming state, a first output current corresponding to the memory cell in the second programming state, a second output current corresponding to the memory cell in the third programming state, or a third output current corresponding to the memory cell in the fourth
30 programming state.

Claim 2 (Original): The method of claim 1 wherein the

maximum output current is larger than the first output current, which is larger than the second output current, which is larger than the third output current.

- 5 Claim 3 (Currently Amended): The method of claim 1 wherein ~~each memory cell comprises a source, a drain, a channel formed between the source and the drain, a first isolation layer formed on the channel, a non-conducting dielectric layer formed on the first~~
10 ~~isolation layer, a second isolation layer formed on the non-conducting dielectric layer and a conductor formed on the second isolation layer, the non-conducting dielectric layer comprising~~ comprises a first region nearby the drain and a second region
15 nearby the source.

- Claim 4 (Original): The method of claim 3 wherein the first programming state represents that both the first region and the second region are not injected with
20 electrons, the second programming state represents that the second region is not injected with electrons but the first region, the third programming state represents that the first region is not injected with electrons but the second region, and the fourth
25 programming state represents that both the first region and the second region are injected with electrons.

Claim 5 (Canceled)

- 30 Claim 6 (Currently Amended): The method of claim ~~[[3]]~~ 1, wherein the first isolation layer and the second isolation layer both comprise silicon dioxide.

**Claim 7 (Currently Amended): The method of claim [[3]]
1, wherein the conductor comprises polysilicon.**